April 24, 1928. 1,667,343

E. B. BRONSON

LANTERN

Original Filed Oct. 23, 1922 2 Sheets-Sheet 1

Fig. 1

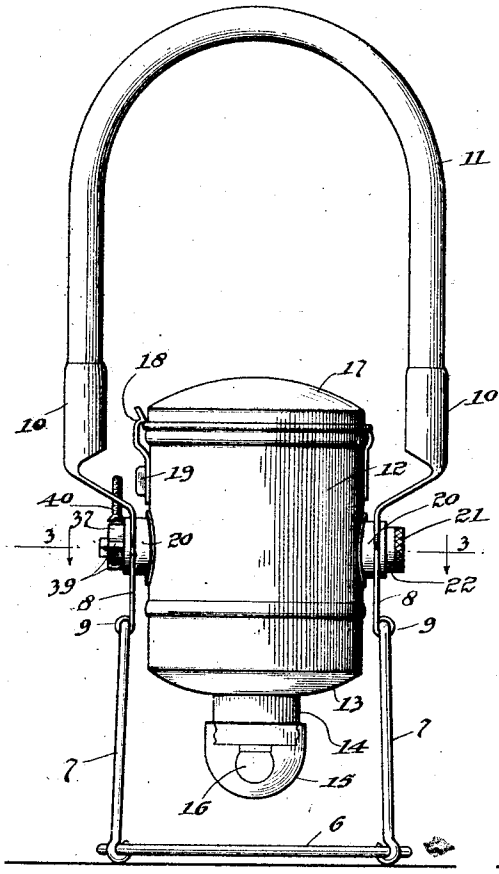


Fig. 2

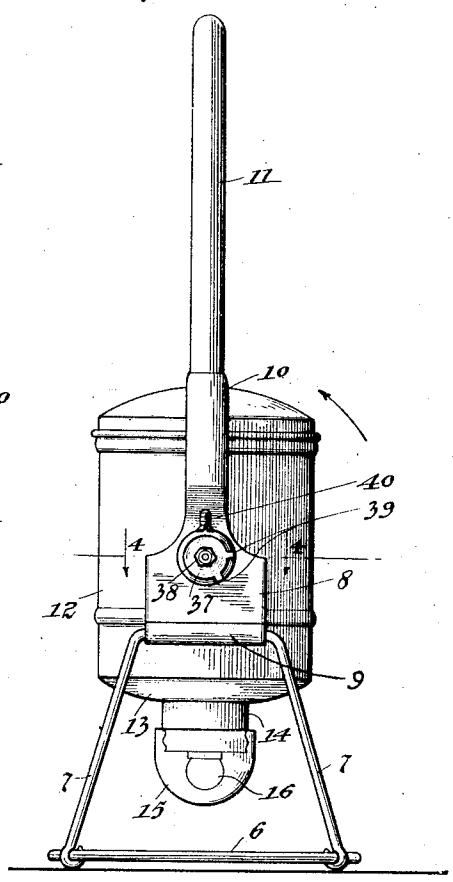


Fig. 4

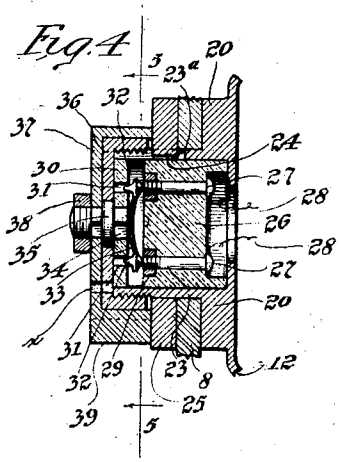


Fig. 3

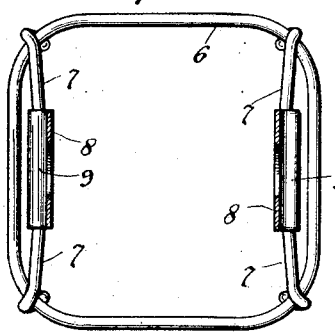
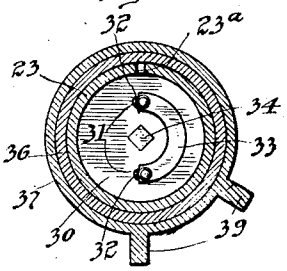


Fig. 5



Inventor:
Edmond B. Bronson
By Benjamin, Cookman & Lemley.
Atty's.

April 24, 1928.

1,667,343

E. B. BRONSON

LANTERN

Original Filed Oct. 23, 1922 2 Sheets-Sheet 2

Fig. 6

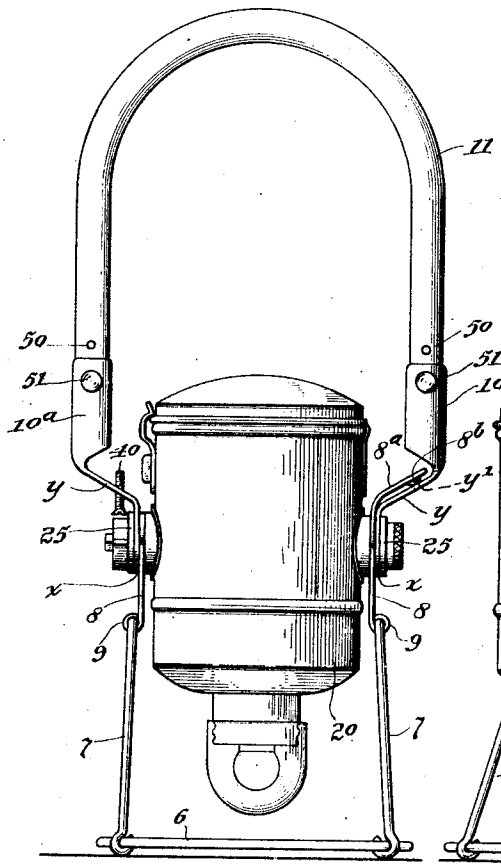


Fig. 7

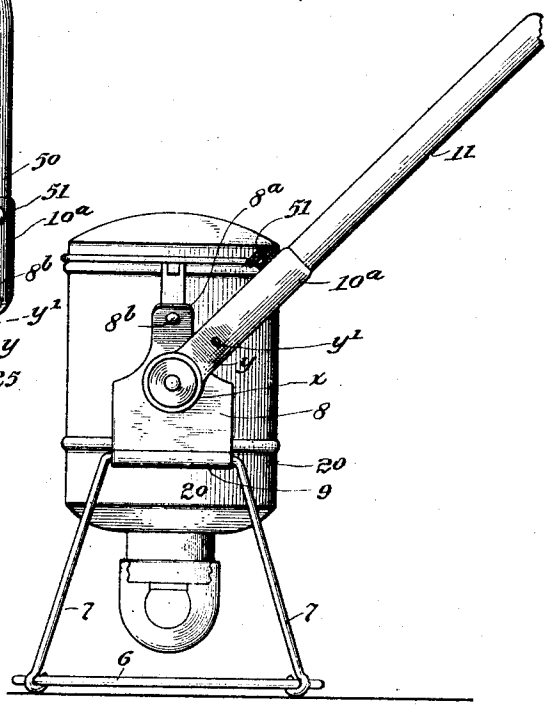
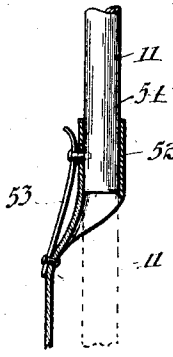


Fig. 8



Inventor:
Edmond B. Bronson
By Benjamin, Rosshirt & Lundy
Attys.

Patented Apr. 24, 1928. 1,667,343

UNITED STATES PATENT OFFICE.

EDMOND B. BRONSON, OF BLUE ISLAND, ILLINOIS.

LANTERN.

Application filed October 23, 1922, Serial No. 596,270. Renewed March 15, 1928.

My invention relates to lanterns, and more particularly to what are known as self-contained electric lanterns of the portable type that are adapted for use by switchmen, railroad workers and other persons who desire to use a lantern to be carried by a bail in the manner of the well known tubular lantern.

One of the principal objects of my invention resides in the provision of a lantern in which the battery container is in the form of a shell, and one end thereof being provided with a lamp socket into which may be inserted a bulb, and the structure in this unitary form is so mounted in a suitable carrier or support as to be capable of angular adjustment therewith. Another object resides in the provision of a switch mechanism mounted exteriorly of the battery casing so that it may be operated manually by rotating a pivoted element. In this connection, another object resides in connecting the switch with the battery casing in such manner that the switch may be operated to turn the circuit on or off by a rotation of the battery casing. Other objects will be apparent to persons familiar in this art, all of which objects I prefer to accomplish by the mechanism hereinafter described.

The accompanying drawings, which are diagrammatic, illustrate a typical embodiment or preferred form in which my lantern is made, and said drawings form a part of this specification, in which

Fig. 1 is a vertical front elevation of my improved lantern.

Fig. 2 is a vertical side elevation thereof;

Fig. 3 is a horizontal section of the standard or supporting cage, detached from the lantern body, and taken on line 3—3, Fig. 1.

Fig. 4 is a horizontal section on line 4—4, Fig. 2, and drawn to an enlarged scale.

Fig. 5 is a section on line 5—5, Fig. 4.

Fig. 6 is a view similar to Fig. 1 showing a modified structure wherein the bail or handle is pivoted and may be moved with respect to both the stand and casing.

Fig. 7 is a vertical side elevation looking at the right hand side of Fig. 6 and with the handle moved downwardly.

Fig. 8 is a sectional view of a modified handle bracket.

Similar reference characters designate the same parts throughout the views, and by referring to Figs. 1, 2 and 3 it will be observed the supporting and carrying structure of my lantern comprises a rectangular base 6 formed of wire or rod of suitable gage, having the corners chamfered, as shown in Fig. 3, to permit the base to be reclined upon any of its sides as well as its bottom, and from these chamfered corners arise the vertical legs or loops 7, 7, that support the lantern body. The rectangular outline of this base is peculiarly advantageous in connection with the pivoted battery casing, as it permits the structure to be disposed upon its side as well as bottom in which reclined position it will be supported securely by a straight side of the base and the top of the bail or casing. Such a position increases the convenience of use and the services in which the lantern may be employed. These supports are preferably of wire, similar to base 6, and are of U-shape, as shown in Fig. 2, so that the ends of the arms thereof are turned around the corners of the base, and the connecting portions are disposed substantially parallel with the base. A plate 8 has its lower end connected with the horizontal portion of standard 7 by forming a loop 9 around the same. Two of these plates 8 are provided, one on each side of the lantern body, and their upper portions are bent outwardly in an inclined direction and then formed tubular to provide sockets 10, 10, that extend vertically upwardly from the flat portions of the plates, to receive the ends of the U-shaped bail 11, of wood, bamboo or other suitable material.

The battery casing comprises a cylinder 12 having a transverse convex wall 13 closing one end from which extends a tubular shell 14 that is threaded upon its outer end to receive a transparent or translucent globe 15. A suitable socket of any well known construction is provided in the end 13 in which is mounted a miniature electric bulb 16. The opposite end of the battery casing 12 is closed by a hinged cover 17 that is retained against accidental displacement by a spring latch 18 which may be locked in position by the rotation of a wing stud 19 that coacts therewith. The wall of the battery casing, at diametrically opposite points, and preferably centrally of the length of the casing is provided with embossments or trunnions 20, which are preferably hollow and longitudinally slotted, as hereinafter detailed. These trunnions or embossments coact with suitable apertures formed in the supporting plates 8 and are threaded. One

of the trunnions receives a frictional clamping sleeve or nut 21 that is screwed upon the outer extended end thereof, and a friction washer 22 is interposed between nut 21 and the adjacent portion of plate 8 with its feather in the slot made in the trunnion. The opposite embossment 20, as seen in Fig. 4, is similarly reduced in diameter to provide a sleeve 23 that passes through the aperture in its plate 8 adjacent thereto, and is provided with a longitudinal slit 23^a to receive a feather 24 extending into the central opening in a washer 25 mounted upon sleeve 23.

Within sleeve 23 is mounted the switch for turning on and off the circuit to the bulb. The circular insulating block 26 fits into the sleeve and carries posts 27 to which the adjacent ends of the two conductor wires 28 are connected. The outer ends of posts 27 are threaded and screwed into small disks or nuts 29 embedded in the outer face of block 26 so as to provide separated or spaced contact elements in the face of the block. Disposed in front of the block is an insulating disk 30 having spaced apertures 31 to receive short stubs 32 on opposite ends of a segmentally shaped switch plate 33 that is preferably of thin metal of suitable conductivity and is preferably bowed transversely intermediate its ends, as seen in Fig. 4. Centrally of disk 30 is a rectangular aperture to receive the square end 34 of a stud that is increased in diameter and of circular outline, as at 35, intermediate its ends where it is positioned in a central aperture made in a cap 36. The cap 36 is threaded internally, and is screwed upon the threaded outer end of tubular sleeve 23. A rotatable cover 37 fits over cap 36, as seen in Fig. 4, and has a square aperture in its central portion to receive the corresponding portion of stud 34. The outer end of stud 34 is threaded, and a nut 38 is screwed thereon to maintain the parts in assembly and insure the movement or rotation of the switch carrying disk 30 with cover 37. Upon the exterior of cover member 37 is provided a pair of radially projecting lugs 39 that engage the head of a small bolt 40 screwed into the laterally inclined portion of plate 8 so that its head may be projected into and out of the path of movement of lugs 39. Bolt 40 may be adjusted so as to remove it from the path of the lugs whenever desired.

In order to be able to assemble cap 36 with sleeve 32, I have provided transverse holes x in the cap and cover 37, which may be brought into registry to receive a pin for holding these two elements against relative movement so that these parts may be screwed upon the threaded end of sleeve 23, and when this assembly is completed the pin is removed thereby permitting cover 37 and the insulating disk 30 to be rotated while cap 36 remains in its adjusted position. It will be seen now, that when it is desired to adjust the battery casing with respect to the stand or base, the parts may be rigidly secured in the desired adjustment by turning up cap 21 on the opposite trunnion.

When the battery casing and the parts are in the relative position, shown in Figs. 1 and 2, the casing may be rotated upon its trunnions in the direction indicated by the arrow in Fig. 2, causing the upper lug 39 to engage the head of bolt 40 which will stop the further rotation of cover 37, and, consequently, the further rotation of insulating disk 30 with switch plate 33 thereon. Further rotation of the casing will bring the contact pieces 29 on their respective posts 27 carried by block 26 into electrical contact with the studs 32, thereby forming the circuit therethrough and to the respective conductor wires 28 and the filament of the bulb, which will illuminate the lantern. By reversing the movement of the lantern body the opposite lug 39 will be moved into engagement with the head of bolt 40 to stop the further movement in that direction of the cover member 37 and the switch plate disk 30, while a continued movement of the body in the same direction will move the contact elements on block 36 out of engagement with the switch element, thus shutting off the current to the bulb. When desired, the casing may be rotated to a desired position, after screwing bolt 40 out of the path of lugs 39 and then cover member 37 may be rotated by the fingers of the operator to switch the current on and off.

In Figs. 6 and 7 of the drawings I have illustrated a modification of the lantern wherein the standard or support and the handle or bail are made separately, and the latter is adapted to be swung downwardly, substantially in the manner shown in Fig. 7, for the purpose of permitting the operator to pass his arm through the bail and rest or support the lantern base or standard in front of the elbow, as is usually the practice with railroad conductors when taking up fares, etc. As seen in Figs. 6 and 7 the support is formed of uprights 7, annular base portion 6 and plates 8 that are connected to the horizontal portions of the legs by means of loops, as hereinbefore explained. The upper portions of plates 8 terminate above the aperture to receive the trunnions, and one of the plates is provided with an oblique extension 8^a of less width than its body portion, and which is provided with a spherical embossment 8^b in the under surface of its outer portion.

The handle 11 is received in sockets 10^a extending upwardly from a disk-like plate x, which disks are interposed between plates and washers 25. Intermediate disks x and sockets 10^a the elements are given an oblique

bend, as at y, and the portion y adjacent extension 8^a is provided with a recess or aperture y' to coact with the spherical embossment 8^b heretofore alluded to. The operating screw or bolt 40 is threaded into an aperture in oblique portion y of the opposite socket element and when it is desired to operate the lantern the handle may be moved to substantially the position shown in Fig. 7, which disengages the depression or aperture y' from spherical embossment 8^b and permits the operator to mount the lantern upon his arm adjacent the elbow. Upon the return of the handle to a vertical position the embossment will snap into the depression or aperture causing a temporary latching of the parts which maintains the handle in an upright position.

The casing 20 of the lantern and the switch and other parts are all identical with the structure heretofore described and as illustrated in Figs. 1 to 5, and the lantern body or casing may be adjusted upon its trunnions to a desired angle at any time, whether the handle is vertical or inclined. The handle is provided with a plurality of recesses 50 into which may be projected the set-screws 51 and by the selection of a suitable pair of recesses the length of the bail may be nicely adjusted to the arm of the individual user.

While I have herein illustrated but two modifications of my invention, it will be obvious that other structures may be designed to carry out the principles of my invention without departing from the terms of the appended claims, and I desire it understood that such changes are contemplated as coming fully within the scope of said claims. For example, the handle bracket may be modified as illustrated in detail in Fig. 8, wherein the oblique portion extended from plate 8, or from apertured disk y is more upright and the socket 52 is formed upon the outer surface. A spring member 53 is secured to this oblique member and carries a lateral pin or stud 54 upon its outer or free end that passes through an aperture in the adjacent wall of the socket so that it may enter a recess in the enclosed portion of handle 11 and act as a latch. By releasing this latch the handle may be forced down through the socket, as seen in dotted lines (Fig. 8) so that the lantern will occupy less space for storage or shipment.

What I claim is:

1. A lantern comprising a suitable supporting base having a carrying element connected therewith, a battery casing pivotally mounted in said base, a socket on said casing, a switch upon the exterior of said casing, conductors leading from said socket to adjacent said switch, and means operable by the movement of said body upon its pivot for electrically connecting said switch, and conductors.

2. An electric lantern comprising a battery casing, trunnions extending diametrically therefrom, a support and handle with which said trunnions co-operate to pivot said casing, the base of said support having a rectangular outline, and means cooperating with one of said trunnions for retaining said casing and support in desired relation.

3. In an electric lantern, a support comprising an angular base, a pair of loops secured to and arising from opposite portions of said base, apertured plates secured to and extending from said loops and provided with handle-receiving sockets, a battery casing having trunnions co-operable with the apertures in said plates, and means co-acting with said trunnions and plates for securing said elements in desired relation.

4. An electric lantern comprising a support consisting of a base provided with handle receiving members, a battery casing provided with trunnions co-operable with said base, whereby said battery casing may be rotated upon its trunnions to dispose the same at divers angular relations with said support, said base being formed to support the lantern in fixed position when disposed on its side as well as when disposed on its bottom.

5. An electric lantern consisting of a battery casing, oppositely disposed trunnions extending therefrom, a support apertured to receive said trunnions, means co-operating with one of said trunnions and said support for securing said elements in desired relation, a switch mounted in one of said trunnions, and adjustable means for co-ordinating said switch and support whereby said switch is operated by a relative movement between said casing and support.

6. An electric lantern comprising a battery casing, oppositely disposed trunnions extending therefrom, a support in which said trunnions are journaled, a switch within one of said trunnions, and means for co-ordinating said elements whereby a relative movement between said casing and support will operate said switch.

7. A lantern comprising a supporting base having a carrying element connected therewith, a battery casing pivotally mounted in said base, a lamp socket on said casing, a switch upon the exterior of said casing, conductors leading from said socket to adjacent said switch, and means operable by relative movement of one of said elements with respect to the others for electrically connecting said switch and conductors.

8. A lantern comprising a supporting base having a carrying element associated therewith, a battery casing pivotally mounted in said base, a lamp socket on said casing, a switch upon the exterior of said casing, conductors leading from said socket to adjacent said switch, and means operable by relative

movement of one of said elements with respect to the others for electrically connecting said switch and conductors.

9. In an electric lantern, a support comprising an angular base, a pair of loops secured to and arising from opposite portions of said base, apertured plates secured to and extending from said loops and provided with handle-receiving sockets, a handle connecting said sockets, a battery casing having trunnions co-operable with the apertures in said plates, and means co-acting with said trunnions and plates for securing said elements in desired relation.

10. An electric lantern comprising a battery casing, oppositely disposed trunnions extending therefrom, a support for said casing in which said trunnions are journaled to permit of a pivotal movement of said casing with respect to said support, a switch within one of said trunnions, and means for coordinating said elements whereby a relative movement between said casing and support will operate said switch.

Signed at Chicago, county of Cook and State of Illinois, this 19th day of October, 1922.

EDMOND B. BRONSON.